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Melanie Stiassny to Lead Friends Trips to Zambia, Zimbabwe, and Botswana

Assistant Professor Melanie Stiassny is eagerly anticipating leading the Friends of the MCZ on two trips to Zambia, Zimbabwe, and Botswana for several reasons.

Victoria Falls from the Zimbabwe side.

Photos by Babette Alfieri

First of all, these beautiful countries offer unrivaled opportunities for viewing great numbers of spectacular game animals and birds. Second, traveling with a congenial, highly-motivated group will provide a perfect forum for Stiassny's teaching talents (she has received rave reviews from students in the popular Biology of Fishes course). And third, the trips will provide an ideal opportunity to pursue the field aspects of her current research project on generalists and specialists in the large cichlid fish family.

Although a great deal is known about cichlid fishes that live in lakes, relatively little is known about river populations. Consequently, a mythology has evolved attributing enormous variation and

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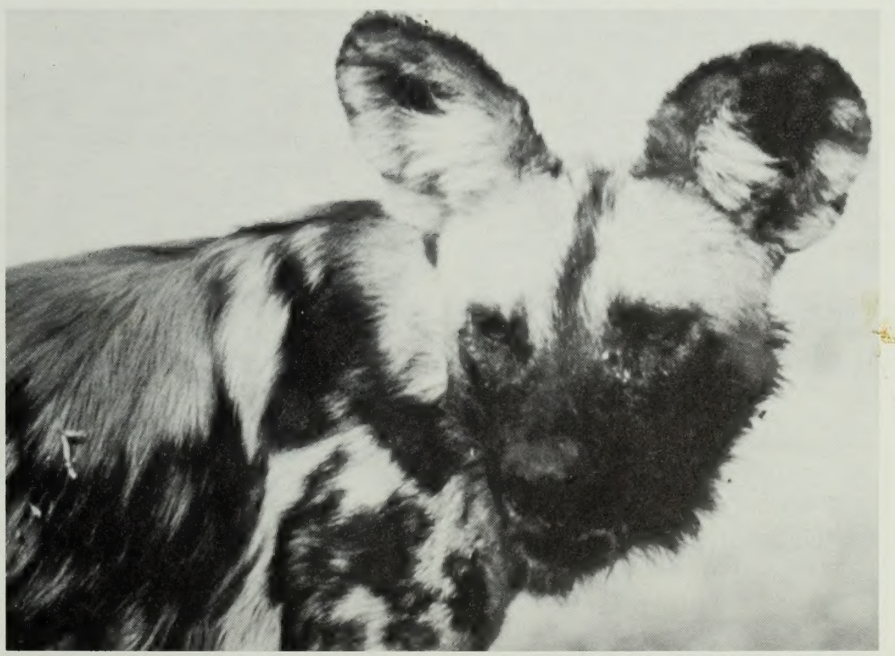

African wild dog, also known as "hunting dog", Luangwa National Park, Zambia.

William James Clench 1897–1984

by Melissa McWhinney

Dr. William James Clench, Honorary Curator in Malacology at the Museum of Comparative Zoology, died on February 22, 1984, after a long illness. He was 86.

William James Clench, 1946

A member of the staff of the Museum of Comparative Zoology (MCZ) since 1925, Clench increased the size and value of the Mollusk collection more than tenfold during his tenure as curator, making it one of the major malacological research centers in the world. It also became the outstanding center for training in Malacology, with Clench functioning as teacher, mentor and colleague to the many people who came to work with him. Ruth D. Turner and Kenneth J. Boss, both Curators in Malacology and Professors of Biology at the MCZ, were students of Clench.

Clench's research focused on land and freshwater mollusks. He made over 40 collecting trips to sites throughout the United States and Canada, and to the West Indies and Hawaii, to improve and enlarge the MCZ collections. He continually kept his eyes open for opportunities to improve the collection, and in several instances was able to acquire valuable collections from other institutions, such as the collections of the Boston Society of Natural History, Amherst College, Salem Peabody Museum, and the Public Museum of Grand Rapids, Michigan. Clench also found time, between trips and teaching, to serve as special editor for *Webster's International Dictionary*, the *Encyclopedia Americana*, *World Book*, *McGraw-Hill Encyclopedia of Science and Technology*, and others. Founder and editor of "Johnsonia (Monographs of Western Atlantic Marine Mollusks)" and "Occasional Papers on Mollusks," published by the MCZ and supported wholly by subscription, Clench also published more than 420 scientific papers and 29 book reviews.

Born on October 24, 1897, in Brooklyn, N.Y., he earned the B.S. degree in 1921 from Michigan State College, the M.S. from Harvard University in 1923, and the Ph.D. in 1953 from the University of Michigan, as well as earning an Honorary D.Sc. from Michigan State University in 1953. He joined the staff of the MCZ in 1925, as assistant in the Mollusk Department, and moved to the position as curator in 1926. He also served as Lecturer in Zoology from 1930-1935. After his retirement in 1966, he was appointed Honorary Associate in Malacology, to enable him to continue official involvement with the Mollusk Department, and then in 1969 was appointed Honorary Curator in Malacology.

He is survived by his son, Carleton W., of Mission Viejo, California.

Edward O. Wilson Shares Tyler Prize

Courtesy, Harvard University Gazette

Edward O. Wilson, Frank B. Baird, Jr. Professor of Science and Curator of Entomology in the MCZ, has won the $150,000 Tyler Prize for Environmental Achievement, which is generally regarded as the most distinguished international award in ecology.

Sharing the prize is Roger R. Revelle, Director *emeritus* at the Scripps Institution of Oceanography, Director *emeritus* at the Harvard University Center for Population Studies, and Professor of Science and Public Policy at the University of California, San Diego.

Wilson, recently known as one of the originators and the principal proponent of sociobiology, is being recognized for his work in the late '60's on the theory of island biogeography.

This theory postulates, in brief, that the living world is broken into patches or ecosystems existing to a large extent on "real" islands or "habitat" islands surrounded by habitats of markedly different

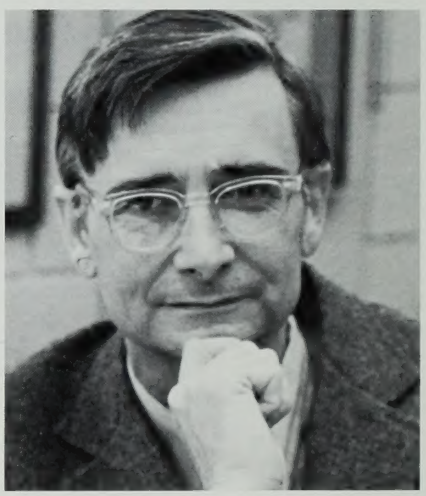

Photo by Lilian Kemp

natures. Such ecosystems include lakes, mountain tops, single plants in the case of insects and smaller organisms, and even animals and man, which form the habitats for bacteria and other pathogens.

Working with the late Robert H. MacArthur of Princeton and Daniel Simberloff of Florida State University, Wilson produced evidence that in a given habitat the number of plants and animals is in equilibrium and can be predicted from

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New Staff Members

James Carpenter with paper wasp nest from Uruguay.

Charles Crumly

Curatorial Associate in Herpetology

Charles Crumly, who received his Ph.D. from Rutgers University, is a specialist in the evolution of land tortoises. He considers himself fortunate to be at the MCZ, which not only has one of the largest collections of reptiles and amphibians in the world, but also has a tortoise collection rated among the top three or four worldwide. Crumly was able to assess this rating for himself during extensive visits to many of the old European collections gathering data for his dissertation, supported by a National Science Foundation Dissertation Improvement Grant. He comes to the MCZ from the National Museum of Natural History, where he finished his degree supported by a Predoctoral Fellowship.

At the MCZ, Crumly is updating the type list of the herpetology collection. (A type is that specimen for which a species was named.) The last widely-distributed type lists were published by Thomas Barbour and Arthur Loveridge in 1929 and 1946. Since that time, Ernest Williams and his colleagues have named many new species. The new list will be published sequentially as "MCZ Bulletins". Crumly estimates there will be at least five volumes.

Crumly also maintains the herpetology library, and is starting new research projects on Old World chameleons, taking advantage of the excellent collection here.

James Carpenter

Assistant Professor of Biology, Assistant Curator of Entomology

James Carpenter received his Ph.D. from Cornell University in 1983 where he studied the phylogenetic relationships of wasps. He is interested in both the systematics and behavior of neo-tropical wasps about which very little is known. He will be collecting as well as observing wasp nesting and mating behavior in Peru this December.

He employs a numerical, computerized approach in his study of wasp taxonomy. When asked how this is actually done, he explained: "I assign a numerical code for each feature and make a matrix for the characters. The matrices are fed into the computer and phylogenetic trees are generated."

Carpenter is no stranger to the MCZ's Entomology Department having visited here previously to work on the wasp collections. Since the department holdings are so vast, particular groups tend only to receive special attention when a researcher is actively working on them. With the appointment of Carpenter to our Entomology Department, it will be the wasp collection's turn to be updated and upgraded.

Carpenter is also participating in the teaching of "Principles of Systematics" with Melanie Stiassny and Peter Stevens.

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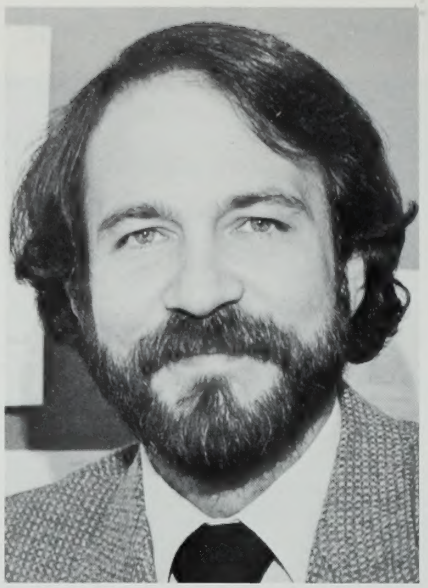
Rodney Honeycutt

Assistant Professor of Biology, Assistant Curator of Mammals



Totally Texas-educated (B.S., University of Texas; M.S., Texas A & M; Ph.D., Texas Tech) Rodney Honeycutt brings a thorough grounding in modern experimental approaches to his study of mammals at the MCZ.

His Masters degree research was in cytogenetics, studying the hybrid zones in pocket gophers which exhibit a great degree of genetic variation. Between his Master's and Ph.D. study he worked for an environmental science firm conducting surveys of small mammal populations in several states. He returned to graduate school to study chromosomal systematics and evolution using new world leaf-nosed bats as his research subjects. These bats provide a fertile area for the study of the systematic relationships of groups since they comprise one of the largest and most diverse families of mammals. Not unlike cichlid fishes, they have evolved an enormous variety of feeding strategies and include fish-eaters, fruit-eaters, carnivores, and vampires. There is a great deal of morphological variation and the interrelationships of the species was largely unknown. A new approach was needed and Honeycutt learned the molecular techniques at Berkeley to sort out the bat phylogenetic relationships.

During his graduate years, Honeycutt became interested in molecular evolution and the evolutionary consequences of changes in genome organization and DNA sequences. This interest was stimulated by speculations concerning morphological change and regulatory mutations. Consequently, Honeycutt pursued postdoctoral studies at the Australian National University and CSIRO Plant Industries where he learned molecular and cytogenetic techniques. His research in Australia was concerned with the origin and variation in a species of parthenogenetic (asexual) grasshopper. For the past year, he was a research fellow at the University of Michigan studying mitochondrial DNA sequence variation in primates.

Honeycutt plans to continue work on parthenogenetic species as well as his studies on primates. He is also interested in the significance of hybrid zones to speciation. One such hybrid zone occurs between races of mole-rats in Israel, and together with Israeli colleague, Evitor Nevo, Honeycutt will begin a study of mitochondrial DNA variation across this hybrid zone. "I always seem to be digging in the ground", he observes, in anticipation of the mole-rat study; his research career began with a study of pocket gophers.

The curatorial side of his responsibilities include the submission of a grant application to the National Science Foundation for the reorganization of the Mammal Department. Preliminary steps are already underway, with the shifting of some of the larger specimens to new quarters at the Concord Field Station.

Mammal Department On the Move

Dermestid beetles working on an otter skull and beef bones.

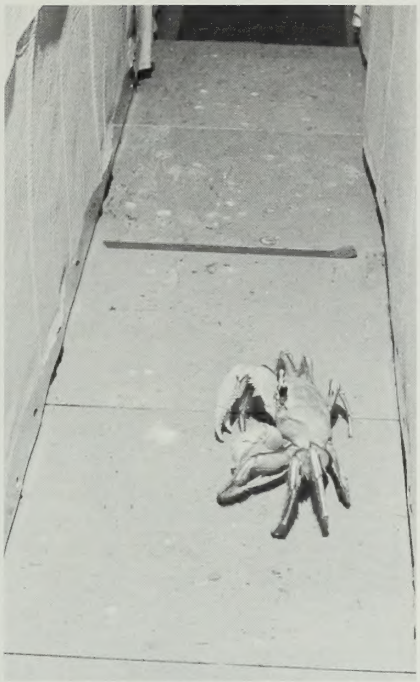
The seventh largest mammal collection in North America, the MCZ's Mammal Department is currently undergoing some major transformations with the relocation of portions of the collection to recently-renovated quarters in one of the underground bunkers, originally designed to house a Nike missile, at the Concord Field Station.

According to Jane Winchell, Curatorial Assistant in Mammals, "all the specimens in alcohol have now been moved except the bats. The cetaceans were moved last year. The vacated space will make possible a badly-needed major reorganization of the remaining collections."

The dermestid beetle colonies

have also been moved out to the Concord Field Station. Winchell, who supervises this activity, notes that the underground bunker provides the necessary climate control for the maintenance of these surprisingly delicate creatures who can skeletonize an average opossum within five days. She keeps a close watch over the beetles' feeding in order to remove the skeleton before it becomes disarticulated. In between road-kills, she maintains the colonies with a diet of beef bones. When asked whether the method of boiling would be preferable, she explained: "Boiling softens the bones and destroys the connecting tendons and ligaments. Dermestids, carefully maintained, render the best skeletons."

Jane Winchell with skeleton cleaned by dermestid beetle colony.



A ghost crab makes its way along the runway.

gist from the University of Chicago, are measuring the cost of locomotion in the ghost crab, Oxypode (which, appropriately, means "swift of foot").

The investigators selected this eight-legged arthropod because of its large size and its extraordinary ability to run sideways in either direction. When running fast, the crab actually uses only two legs and leaps into the air. Previously, Full discovered that the metabolic energy required by crabs to travel a distance is the same as that of comparable-sized mammals despite major physiological differences. In this study it appears that the fluctuations in mechanical energy are also similar to that of mammals even though the crab possesses a totally different biomechanical system. The basic mechanisms used during locomotion seem to be very general; they may apply not only to vertebrates but also to arthropods.

The Concord Field Station's animal community is very diverse this fall. Several llamas, foxes, goats, wallabies, and an adult and baby ostrich are taking part in various physiological and biomechanical studies.

Juvenile ostrich is almost camouflaged in the fall leaves on the Concord Field Station grounds.

Crabs Run for Researchers at Concord Field Station

For the last ten years, researchers have been putting a wide range of vertebrates through their paces at the Concord Field Station in a comprehensive study of the energetics of locomotion. Now it is the invertebrates' turn. Postdoctoral fellow Rheinhart Blickhan from the Goethe University, Frankfurt, Germany, and Robert Full, a physiolo-

Friends of the MCZ Help Plan Morocco/Spain Trip

Veteran Morocco travelers Donald and Beverly Seamans have provided invaluable assistance in the planning of the upcoming Friends of the MCZ trip to Morocco, Spain's Coto Doñana, and the Balearic Islands (March 11–April 1). The Seamans, who also serve on the Advisory Board to Public Programs and traveled to India with the Friends of the MCZ last March, are part of a growing group of natural history enthusiasts who are choosing MCZ trips as one of their favorite modes of nature travel.

Scientific guide Pere Alberch, Spanish-born MCZ herpetologist, and Gabrielle Dundon, Director of Public Programs, will accompany this comprehensive tour of Morocco and Spain's natural history highlights. For a detailed itinerary and registration form, call the Public Programs office at 617-495-2463.

(l. to r.) Pat Kehoe (who described Morocco at a trip preview evening in September), Donald and Beverly Seamans at the ruins of Volubulis with the city of Moully Idriss in the background.

Stiassny

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subsequent specialization only to lake-dwelling cichlids. River populations are currently assumed to be generalists. Stiassny is convinced that further study of the river-dwelling cichlids will reveal a different story. She will use the genus Tylochromis, which lives in both lakes and rivers and therefore makes an ideal model to study, to this aim.

With the support of a grant from the National Science Foundation, Stiassny is studying the MCZ collection and next summer will tour the European museums with strong holdings in these fishes. The Friends of the MCZ trips will allow her to complement her museum studies through this opportunity to collect and study live cichlids. She plans to conduct some of her work while actually on the trip, and welcomes assistance from any interested trip participants, and will also take advantage of being in Africa by extending her stay for research purposes.

Friends who take part in these trips will not only be providing support for the Public Programs Department with their tax-deductible contributions, helping the Save the Rhino Trust which owns Chinzombo Camp—home base for the group in Zambia, but will also be furthering Stiassny's ongoing research into one of evolutionary biology's most challenging puzzles.

For a detailed itinerary and registration form, write or call the Public Programs Office at (617) 495-2463.

Wilson

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two key qualities of that habitat. In general, the smaller and more isolated a habitat, the less various and numerous will be the species and individuals living there.

Wilson's work, in short, has direct relevance for ecology in the planning of wildlife refuges and conservation parks. Such research is helping produce a stronger discipline of conservation biology, through the optimum design in size and shape of natural reserves to maintain a maximum species diversity.

Several hundred buffalo spotted from chartered plane in Botswana.

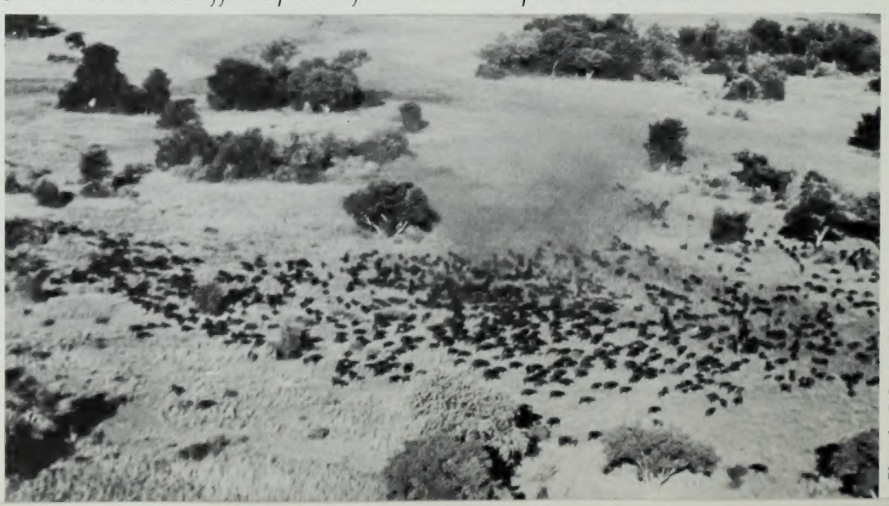
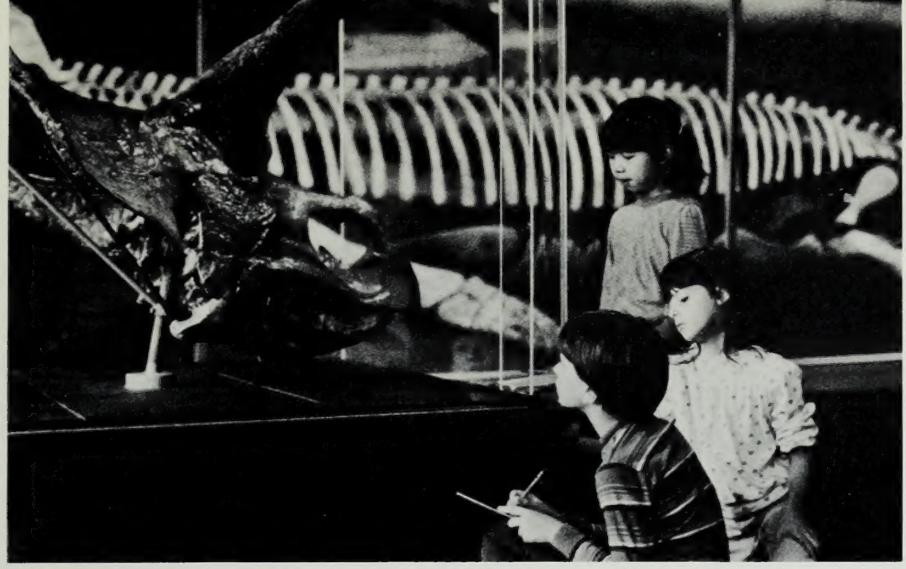


Photo by Babette Alfieri



Clay Syren, Shannon Bisbee, and Sumi Paek, students from the Agassiz School, sharpen their observational skills by scrutinizing the triceratops in the MCZ's Romer Hall.

Photo by Winifred Eisan

Education Programs Take Students from the Classroom, to the Museum, to the Outdoors

Students at four Cambridge public schools—the Agassiz, Peabody, Longfellow, and Graham-Parks—are taking part in a science program divided between their own classroom, visits to the MCZ, and field studies at Habitat Institute for the Environment in Belmont. Funded in part by the Massachusetts Council for the Arts and Humanities, a concerted effort to find sufficient funding to assure the continuation and extension of these highly-acclaimed programs is currently underway.

Taking a break during an outdoor nature session at Habitat are Peabody School students Abby Borden, Kay Hohnson, Mandy Grice, and Latisha Steele.

Photo by Winifred Eisan

Salvaging plaster casts containing fossils from a dumpster in the MCZ parking lot are Arlene Nichols, (r.) resourceful Director of Education, and assistant Yolanda Callan (in the dumpster). Museum Guide Roberta Zinman, cheers them on.

Photo by Winifred Eisan

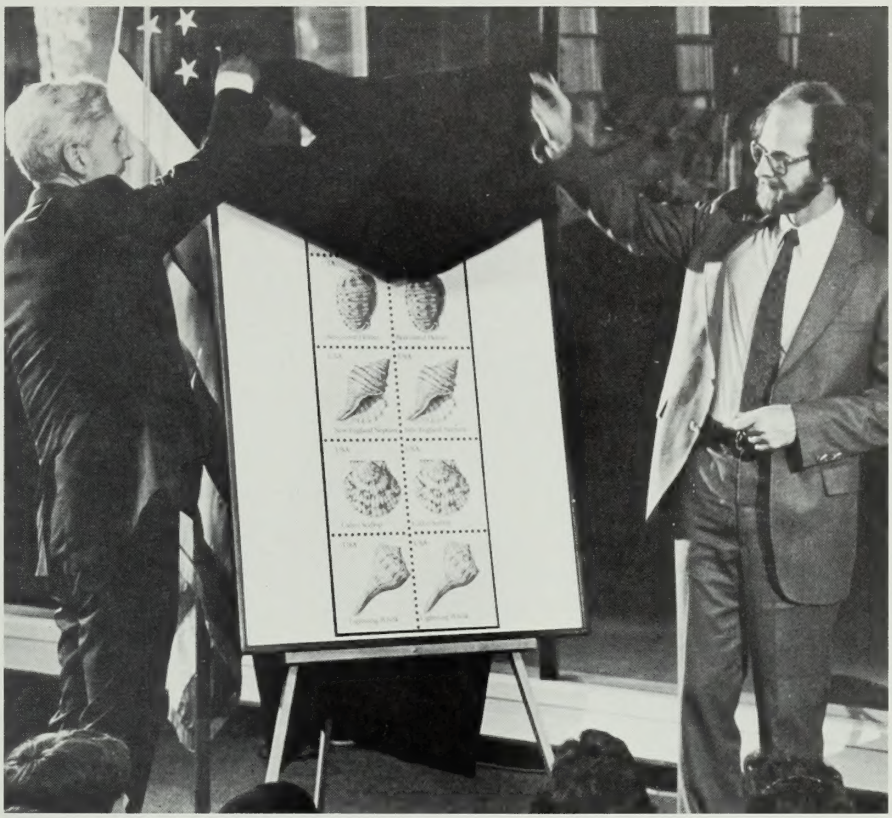
Postmaster General Unveils Designs for First U.S. Stamps Featuring Shells at the MCZ

There were several firsts when Postmaster General William F. Bolger unveiled designs for five new stamps at the MCZ on Friday, September 21: these were the first U.S. stamps ever designed portraying shells; this was the first postage stamp unveiling at Harvard University; and this was the first offical visit by the Postmaster General to Harvard.

Also taking part in the program in the MCZ's Romer Hall were Boston Postmaster Philip L. Sullivan, Professor Ruth D. Turner, Curator of Malacology, and MCZ Director James J. McCarthy. The capacity audience included children from the Agassiz School, Cambridge, members of the Boston Malacological Club, and staff members.

The shells, all native to the North American continent, included in the stamp designs are: Frilled Dogwinkle, *Nucella lamellosa*, Reticulated Helmet, *Cassis testiculus*, New England Neptune, *Neptuna decemcostata*, Calico Scallop, *Argopecten gibbus*, and Lightning Whelk, *Busycon contrarium*. An exhibit of the shells by Turner, David Backus, and Edward Haack, Exhibits Designer, was prepared for the occasion and is now on display.

The next first for the MCZ will be the First Day of Issue ceremony, when the stamps will go on sale, scheduled for March, 1985. Turner is particularly pleased that the MCZ has been chosen for this honor since the occasion will coincide with the 75th Anniversary celebration of the Boston Malacological Club, the second oldest amateur organization devoted to the study of shells in the U.S., which meets at the MCZ on the first Tuesday of every month.



Postmaster General William F. Bolger is assisted by MCZ Director James J. McCarthy at shell stamp unveiling ceremony.

Photos by Lisa DeVincenzo

(l. to r.) Boston Postmaster Philip L. Sullivan, PMG Bolger, and Professor Ruth D. Turner greet Agassiz School students after unveiling ceremony.

Christmas at the Agassiz Museum Shop

by Jane Anderson, Acting Museum Shop Manager

The Agassiz Museum Shop, located at the front entrance to the Museum at 24 Oxford Street, is ready for Christmas. Hours are Monday through Saturday, 9:30–4:30 and Sunday, 1:00–4:30. Friends of the MCZ receive a 10% discount on all purchases.

This year's supply of fossils, always popular with Agassiz Museum gift shoppers, is particularly large and varied. The specimens range from an exquisite crinoid head, nearly intact in its state of preservation, to unusual pyritized crinoid roots, and the ever-popular Green River fossil fish.

Other items for sale include rocks, shells, minerals, gemstone and precious metal jewelry, books, cards, natural history and science toys and stocking stuffers.

Dinosaur items are a traditional favorite for Christmas at the MCZ. We have models, puzzles, books, and accurately-scaled replicas for dinosaur enthusiasts of all ages.

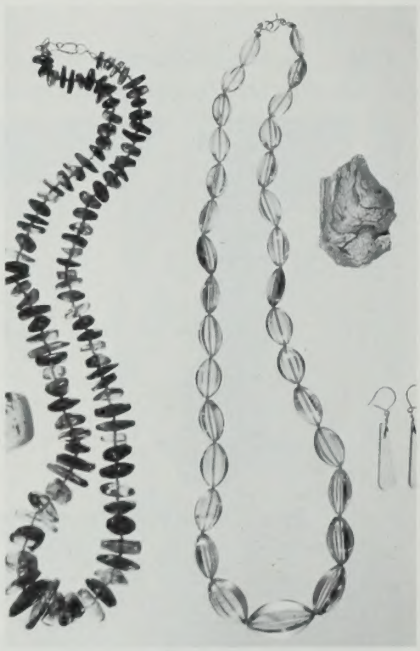
The new Agassiz Museum T-shirts, now available, sport several prehistoric reptile designs as well as one featuring a more modern descendant. Hand-painted and stamped holiday cards by local artists and ornaments from around the world are also among our stock of seasonal merchandise. Unusual cards for all occasions are in greater supply and variety this year and there is a new section devoted to Harvard memorabilia.

Amber Jewelry, a Gift from the Past

One of the earliest substances used by humans for ornamentation, amber is still bought and worn in many decorative forms today. Pictured are several pieces of this long-revered substance from the Agassiz Museum Shop's collection of amber jewelry and encased plant and insect specimens, which range in price from $5.00 to over $300.00.

The fossil resin of an extinct coniferous tree, amber is light in weight, feels warm to the touch, and burns when put to flame. Amber generally ranges from pale yellow to reddish brown, although the rarest shade, which appears to be coated with an oily film, is known as blue amber.

Most of the fossil resin discovered to date is about 40 million years old and comes from one of two major amber sources—the Baltic shore and, more recently, the Dominican Republic. In this century pieces of amber containing inclusions of floral or faunal material are valued more highly because 1) they are scarcer—only one of every hundred chunks unearthed contain inclusions, and 2) unparalleled as scientific tools in the exploration of the past, they provide intact glimpses into the forest of the Oligocene epoch.



Amber jewelry available in the Agassiz Museum Shop.

Staff News

A. W. Crompton has been appointed Fisher Professor of Natural History. The oldest chair in natural sciences, it has been occupied by an extremely distinguished group of scientists including, most recently, Frank M. Carpenter and Elso Barghoorn.

George Gaylord Simpson, a leading authority on evolutionary theory who worked at the MCZ from 1959–1967, died in October at the age of 82. A tribute recognizing his important contribution to evolutionary biology will appear in the next *MCZ Newsletter.*

Graduate student Frances J. Irish was awarded the Stoye Award for Best Student Paper in Morphology, Genetics, and Development of the American Society of Ichthyologists and Herpetologists. In her paper, entitled *Evolutionary Implications of Tooth Replacement Patterns in Snakes,* Irish proposes a correlation between snakes' tooth replacement and periodic skin sloughing.

Ernst Mayr has been awarded the prestigious Darwin Medal of the Royal Society "in recognition of his distinguished contributions to evolutionary biology. Mayr has contributed more to our understanding of the concept of species and of the mechanism of speciation than any other living biologist . . ." Mayr travels to London in November for the award ceremony.

Stephen Jay Gould is this year's recipient of the Bradford Washburn Award, a gold medal carrying with it an honorarium of $5,000, established by a member of the Board of Trustees of the Museum of Science, Boston, on the occasion of the 25th anniversary of Dr. Washburn's services as Director of that museum. The award is given annually "to an individual anywhere in the world who has made an outstanding contribution toward public understanding of science, appreciation of its fascination, and the vital role it plays in all our lives."

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